Behavioral Ecology and Sociobiology

Volume 19 1986

Managing Editor:

Hubert Markl
Fakultät für Biologie der Universität Konstanz
Postfach 5560
D-7750 Konstanz
Federal Republic of Germany

Editors:

Bert Hölldobler
Department of Biology
Harvard University, MCZ Laboratories
26 Oxford Street
Cambridge, MA 02138, USA

Peter Marler
Rockefeller University
New York, NY 10021, USA

John Maynard Smith
School of Biological Sciences
University of Sussex, Falmer
Brighton BN1 9QG, Great Britain

Edward O. Wilson
Department of Biology
Harvard University, MCZ Laboratories
26 Oxford Street
Cambridge, MA 02138, USA

Advisory Editors:

J. Alcock, Tempe, AZ
M. Andersson, Göteborg
M.C. Baker, Fort Collins, CO
G.W. Barlow, Berkeley, CA
J.W. Bradbury, La Jolla, CA
J. Brown, Albany, NY
R.H. Crozier, Kensington, N.S.W.
D.A. Dewsbury, Gainesville, FL
T. Eisner, Ithaca, NY
V. Geist, Calgary, Alberta
D.R. Griffin, New York, NY
W.D. Hamilton, Oxford
G. Hausfater, Columbia, MO
K. Immelmann, Bielefeld
J.R. Krebs, Oxford
M. Lindauer, Würzburg
C.D. Michener, Lawrence, KS
G.H. Orians, Seattle, WA
A.V. Popov, Leningrad
N.Chr. Stenseth, Oslo
Y. Sugiyama, Inuyama City, Aichi
C. Vogel, Göttingen
C. Walcott, Ithaca, NY
M.J. West Eberhard, Costa Rica

Springer International

Behavioral Ecology and Sociobiology

Copyright

Submission of a manuscript implies: that the work described has not been published before (except in the form of an abstract or as part of a published lecture, review, or thesis); that it is not under consideration for publication elsewhere, that its publication has been approved by all coauthors, if any, as well as by the responsible authorities at the institute where the work has been carried out; that, if and when the manuscript is accepted for publication, the authors agree to automatic transfer of the copyright to the publisher; and that the manuscript will not be published elsewhere in any language without the consent of the copyright holders.

All articles published in this journal are protected by copyright, which covers the exclusive rights to reproduce and distribute the article (e.g., as offprints), as well as all translation rights. No material published in this journal may be reproduced photographically or stored on microfilm, in electronic data bases, video disks, etc., without first obtaining written permission from the publisher.

The use of general descriptive names, trade names, trademarks, etc., in this publication, even if not specifically identified, does not imply that these names are not protected by the relevant laws and regulations.

While the advice and information in this journal is believed to be true and accurate at the date of its going to press, neither the authors, the editors, nor the publisher can accept any legal responsibility for any errors or omissions that may be made. The publisher makes no warranty, express or implied, with respect to the material contained herein.

Special regulations for photocopies in the USA

Photocopies may be made for personal or in-house use beyond the limitations stipulated under Section 107 or 108 of U.S. Copyright Law, provided a fee is paid. This fee is US $0.20 per page, or a minimum of US $1.00 if an article contains fewer than five pages. All fees should be paid to the Copyright Clearance Center, Inc., 21 Congress Street, Salem, MA 01970, USA, stating the ISSN 0340-5443, the volume, and the first and last page numbers of each article copied. The copyright owner's consent does not include copying for general distribution, promotion, new works, or resale. In these cases, specific written permission must first be obtained from the publisher.

Other regulations

Authors publishing in this journal can, under certain conditions, benefit from library and photocopy fees collected by VG WORT. Authors of German nationality and those resident in the Federal Republic of Germany or Berlin (West), as well as citizens of Austria, Switzerland and member countries of the European community, may apply to Verwertungsgesellschaft WORT, Abteilung Wissenschaft, Goethestrasse 49, D-8000 München 2, for detailed information.

Springer-Verlag Berlin Heidelberg New York Tokyo
Printers: Universitätsdruckerei H. Stürtz AG, D-8700 Würzburg
Printed in Germany – © Springer-Verlag Berlin Heidelberg 1986
Springer-Verlag GmbH & Co KG, D-1000 Berlin 33

Springer-Verlag
Journal Production Dept. I
Postfach 105280
D-6900 Heidelberg 1
Telephone (0 62 21) 4 87-5 26
Telex 4 61 723

Springer-Verlag
Heidelberger Platz 3
D-1000 Berlin 33
Telephone (030) 8207-1
Telex 183319

Contents

Abrahams, M.V.: Patch choice under perceptual constraints: a cause for departures from an ideal free distribution 409
Alerstam, Th., see Lindström, Å. 417
Anderson, K., see Courtney, S.P. 241
Barlow, G.W., Rogers, W., Fraley, N.: Do Midas cichlids win through prowess or daring? It depends 1
Bell, H.L., Ford, H.A.: A comparison of the social organization of three syntopic species of Australian thornbill, *Acanthiza* 381
Berglund, A., Rosenqvist, G., Svensson, I.: Mate choice, fecundity and sexual dimorphism in two pipefish species (Syngnathidae) 301
Blumer, L.S.: Parental care sex differences in the brown bullhead, *Ictalurus nebulosus* (Pisces, Ictaluridae) . . 97
Borgia, G.: Satin bowerbird parasites: a test of the bright male hypothesis 355
Brown, J.A., Colgan, P.W.: Individual and species recognition in centrarchid fishes: evidence and hypotheses 373
Carlin, N.F., Hölldobler, B.: The kin recognition system of carpenter ants (*Camponotus spp.*). I. Hierarchical cues in small colonies 123
Catchpole, C.K.: Song repertoires and reproductive success in the great reed warbler *Acrocephalus arundinaceus* 439
Catteral, C., see Kikkawa, J., et al. 165
Chu, K., Harcourt, P.: Behavioral correlations with aberrant patterns in humpback whale songs 309
Colgan, P.W., see Brown, J.A. 373
Courtney, S.P., Anderson, K.: Behavior around encounter sites 241
Crozier, R.H., Page, R.E.: Erratum 307
Decelles, P.C., see Kukuk, P.F. 233
Dhondt, A.A., see Lambrechts, M. 57
Dittus, W.P.J.: Sex differences in fitness following a group take-over among Toque macaques: testing models of social evolution 257
Drummond, H., González, E., Osorno, J.L.: Parent-offspring cooperation in the blue-footed booby (*Sula nebouxii*): social roles in infanticidal brood reduction 365
Dufty, A.M. Jr.: Singing and the establishment and maintenance of dominance hierarchies in captive brown-headed cowbirds 49
Eberhard, W.G.: Possible mutualism between females of the subsocial membracid *Polyglypta dispar* (Homoptera) 447
Elgar, M.A.: The establishment of foraging flocks in house sparrows: risk of predation and daily temperature 433
Eriksson, D., Wallin, L.: Male bird song attracts females – a field experiment 297
Fischer, E.A., see Petersen, Ch.W. 171
Fisk, P., see Kikkawa, J., et al. 165
Fletcher, D.J.C., see Ross, K.G. 283
Fletcher, D.J.C., see Vargo, E.L. 41
Ford, H.A., see Bell, H.L. 381
Fraley, N., see Barlow, G.W., et al. 1
Freed, L.A.: Territory takeover and sexually selected infanticide in tropical house wrens 197
Gibbons, D.W.: Brood parasitism and cooperative nesting in the moorhen, *Gallinula chloropus* 221
González, E., see Drummond, H., et al. 365
Harcourt, P., see Chu, K. 309
Hauser, M.D.: Male responsiveness to infant distress calls in free-ranging vervet monkeys 65
Hedrick, A.V.: Female preferences for male calling bout duration in a field cricket 73
Herbers, J.M.: Nest site limitation and facultative polygyny in the ant *Leptothorax longispinosus* 115
Hölldobler, B., see Carlin, N.F. 123
Houston, A.I., see Kacelnik, A., et al. 19
Jeanne, R.L.: The organization of work in *Polybia occidentalis*: costs and benefits of specialization in a social wasp 333
Jeppsson, B.: Mating by pregnant water voles (*Arvicola terrestris*): a strategy to counter infanticide by males? 293
Jessen, K., Maschwitz, U.: Orientation and recruitment behavior in the ponerine ant *Pachycondyla tesserinoda* (Emery): laying of individual-specific trails during tandem running 151
Johnson, C.N.: Philopatry, reproductive success of females, and maternal investment in the red-necked wallaby 143
Johnson, S.G., see Swihart, R.K. 275
Jones, G.: Sexual chases in sand martins (*Riparia riparia*): cues for males to increase their reproductive success 179
Kacelnik, A., Houston, A.I., Schmid-Hempel, P.: Central-place foraging in honey bees: the effect of travel time and nectar flow on crop filling 19
Kikkawa, J., Smith, J.N.M., Prys-Jones, R., Fisk, P., Catteral, C.: Determinants of social dominance and inheritance of agonistic behavior in an island population of silvereyes, *Zosterops lateralis* 165
Kodric-Brown, A.: Satellites and sneakers: opportunistic male breeding tactics in pupfish (*Cyprinodon pecosensis*) 425
Kukuk, P.F., Decelles, P.C.: Behavioral evidence for population structure in *Lasioglossum* (*Dialictus*) *zephyrum* female dispersion patterns 233
Lambrechts, M., Dhondt, A.A.: Male quality, reproduction, and survival in the great tit (*Parus major*) . . . 57
Lifjeld, J.T., see Slagsvold, T. 25

Lindström, Å., Alerstam, Th.: The adaptive significance of reoriented migration of chaffinches *Fringilla coelebs* and bramblings *F. montifringilla* during autumn in southern Sweden 417
Magurran, A.E.: Predator inspection behavior in minnow shoals: differences between populations and individuals 267
Maschwitz, U., see Jessen, K. 151
Masuko, K.: Larval hemolymph feeding: a nondestructive parental cannibalism in the primitive ant *Amblyopone silvestrii* Wheeler (Hymenoptera: Formicidae) . . . 249
Moffatt, J.D., see Muldal, A.M., et al. 105
Morton, E.S., see Shy, E. 393
Muldal, A.M., Moffatt, J.D., Robertson, R.J.: Parental care of nestlings by male red-winged blackbirds . . 105
Narins, P.M., Smith, S.L.: Clinal variation in anuran advertisement calls: basis for acoustic isolation? . . . 135
Osorno, J.L., see Drummond, H., et al. 365
Page, R.E., see Crozier, R.H. 307
Papaj, D.R.: Shifts in foraging behavior by a *Battus philenor* population: field evidence for switching by individual butterflies 31
Petersen, Ch.W., Fischer, E.A.: Mating system of the hermaphroditic coral-reef fish, *Serranus baldwini* . . . 171
Prys-Jones, R., see Kikkawa, J., et al. 165
Robertson, R.J., see Muldal, A.M., et al. 105
Rogers, W., see Barlow, G.W., et al. 1
Rolstad, J., see Wegge, P. 401
Rosenqvist, G., see Berglund, A., et al. 301
Rosenzweig, M.L.: Hummingbird isolegs in an experimental system 313
Ross, K.G., Fletcher, D.J.C.: Diploid male production – a significant colony mortality factor in the fire ant *Solenopsis invicta* (Hymenoptera: Formicidae) . . . 283
Schmid-Hempel, P., see Kacelnik, A., et al. 19
Schwagmeyer, P.L., Woontner, S.J.: Scramble competition polygyny in thirteen-lined ground squirrels: the relative contributions of overt conflict and competitive mate searching 359
Seeley, T.D.: Social foraging by honeybees: how colonies allocate foragers among patches of flowers 343
Sheridan, M., Tamarin, R.H.: Kinships in a natural meadow vole population 207
Shy, E., Morton, E.S.: The role of distance, familiarity, and time of day in Carolina wrens responses to conspecific songs 393
Slagsvold, T., Lifjeld, J.T.: Mate retention and male polyterritoriality in the pied flycatcher *Ficedula hypoleuca* 25
Smith, J.N.M., see Kikkawa, J., et al. 165
Smith, S.L., see Narins, P.M. 135
Spence, J.R., Wilcox, R.S.: The mating system of two hybridizing species of water striders (Gerridae). II. Alternative tactics of males and females 87
Spence, J.R., see Wilcox, R.S. 79
Svensson, I., see Berglund, A., et al. 301
Swihart, R.K., Johnson, S.G.: Foraging decisions of American robins: somatic and reproductive tradeoffs 275
Taigen, Th.L., see Wells, K.D. 9
Tamarin, R.H., see Sheridan, M. 207
Townsend, D.S.: The costs of male parental care and its evolution in a neotropical frog 187
Trillmich, F.: Maternal investment and sex-allocation in the Galapagos fur seal, *Arctocephalus galapagoensis* 157
Vargo, E.L., Fletcher, D.J.C.: Queen number and the production of sexuals in the fire ant, *Solenopsis invicta* (Hymenoptera: Formicidae) 41
Wallin, L., see Eriksson, D. 297
Wegge, P., Rolstad, J.: Size and spacing of capercaillie leks in relation to social behavior and habitat . . . 401
Wells, K.D., Taigen, Th.L.: The effect of social interactions on calling energetics in the gray treefrog (*Hyla versicolor*) 9
Wilcox, R.S., Spence, J.R.: The mating system of two hybridizing species of water striders (Gerridae). I. Ripple signal functions 79
Wilcox, R.S., see Spence, J.R. 87
Woontner, S.J., see Schwagmeyer, P.L. 359
Wyatt, T.D.: How a subsocial intertidal beetle, *Bledius spectabilis*, prevents flooding and anoxia in its burrow 323
Zeil, J.: The territorial flight of male houseflies (*Fannia canicularis* L.) 213

Indexed in Current Contents